User Manual

Energy Sistem Battery Charger AA/AAA

NNATURA 6700 Worl-Wide Traveller.

Please read this manual carefully. It contains important operating instructions.

Warning :

- Batteries are not charged as shipped. Must be charged prior to first use.
- Charge **only** Ni-MH type batteries on this charger.
- Batteries may leak or explode causing personal injury if inserted improperly, disposed of in fire, mixed with other battery types, or short circuited.

Features :

- The charger includes 4-pin USB cable, car adaptor and external AC adaptor
- Powered by the supplied AC adaptor when using indoor or by the supplied 12VDC Car adaptor when using in a vehicle.
- Specially designed with USB input cable , fits USB ports
- Recharges 2 pieces or 4 pieces high capacity of AA & AAA Ni-MH batteries at a time.
- Batteries life well protected by –dV detection and timer protection.
- Automatic charging current selection for size AA and AAA batteries.
- LED display for rapid charge/trickle charge/bad cell detection.

  Flashing LED – rapid charge ; LED lighting up– trickle charge ;

No LED display – Cells are not suitable for charging.

- High efficiency, compact size & light weight.

Safety Features :

- Negative delta V cut -off function
- Safety timer to prevent over charge
- Short circuit protection
- Reverse-polarity protection
- Bad cell Detection

Charging Instructions

1. Insert 2 or 4 pieces of AA/AAA rechargeable Ni-MH batteries into the battery compartment; battery must be charged in pairs. For charging only 2 cells, insert the batteries to the left or right side of the charging terminal (Fig. 1) & (Fig.2)

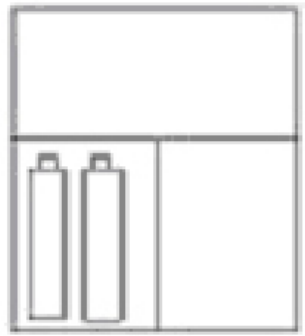

Fig. 1

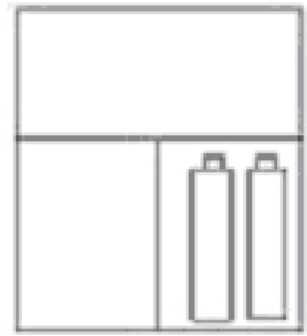

Fig. 2

2. Make correct contact for polarity (+ and –) ; according to the sign in the battery compartment.

3. For charging of AAA battery, pull down the adjustable battery contact plate first and then insert the AAA batteries into the compartment. Now the AAA batteries will be hold firmly inside the compartment.

The charger will adjust the suitable charging current for AAA battery automatically.

4. Charge either AA or AAA size at a time. Do not mix to charge AA or AAA at same time.

5. ***When using indoor***

Connect the supplied AC adaptor's barrel plug into the jack on the back of the charger. Plug the AC adaptor into household electric outlet.

Caution: The supplied AC adaptor supplies 12VDC and delivers 500mA, and its plug fits into the charger's **DC input jack**. Using an adaptor that does not meet these specifications could damage the charger or the adaptor.

When using in a vehicle

Connect the supplied DC car adaptor's barrel plug into the charger's **DC input jack**. Plug the large end of the cord into the 12V car lighter power port.

When using with a operating computer

Connect the supplied USB cable's barrel plug into the charger's **DC input jack.** Plug the 4-pin USB plug into a **standard USB port** of your operating computer. Please make sure your computer is installed with a standard USB port with output 5VDC, 700mA.

6. The LED will flash to indicate the proper charging.

After the batteries are fully charged, the LED will light up indicating the trickle charge is on. The charged batteries are ready for use.

7. Unplug the charger and remove the batteries from the charger when not in use.

8. Begin again at S*tep 1* to charge the next set of batteries.

Bad Cell Detection :

When charge process is started, the charger detects the health status of the cells in the battery compartment. If any battery is unsuitable for charging. i.e. short circuit or reversed polarity, the status LED will switch off.

Specifications :

Charge rate : (when using indoor or in a vehicle) – 12VDC input	2PCS AA 1000mA 4PCS AA 600mA 2 or 4PCS AAA 350mA
(when using with a operating computer/laptop) – 5VDC input	2 PCS AA 700mA 4 PCS AA 400mA 2 or 4PC AAA 350mA
Trickle mode :	AAA 15mA AA 25mA
Operating temperature	0 - 35

(when using indoor or in a vehicle) – 12VDC input

Size	Charging current	Ni-MH	Charging time (FOR 2 PCS)	Charging time (For 4 PCS)
AA	1000mA for charging 2 PCS batteries **OR** 600mA for Charging 4 PCS batteries	1300mAh	80 minutes	145 minutes
		1600mAh	95 minutes	175 minutes
		1800mAh	105 minutes	195 minutes
		2000mAh	115 minutes	215 minutes
		2100mAh	120 minutes	225 minutes
		2300mAh	140 minutes	245 minutes
		2500mAh	150 minutes	265 minutes
		2700mAh	160 minutes	285 minutes
AAA	350mA	500mAh	90 minutes	
		650mAh	120 minutes	
		800mAh	150 minutes	
		900mAh	170 minutes	

(when using with a operating computer/laptop) – 5VDC input

Size	Charging current (USB)	Ni-MH	Charging time (FOR 2 PCS)	Charging time (For 4 PCS)
AA	700mA for charging 2 PCS batteries **OR** 400mA for Charging 4 PCS batteries	1300mAh	120 minutes	215 minutes
		1600mAh	140 minutes	260 minutes
		1800mAh	160 minutes	290 minutes
		2000mAh	180 minutes	320 minutes
		2100mAh	190 minutes	335 minutes
		2300mAh	200 minutes	365 minutes
		2500mAh	210 minutes	390 minutes
		2700mAh	220 minutes	420 minutes
AAA	350mA	500mAh	90 minutes	
		650mAh	120 minutes	
		800mAh	150 minutes	
		900mAh	170 minutes	

**For 4 pcs AA Ni-MH (using 4-pin USB cable input), the charging current is 400mAh. For 2 pcs AA Ni-MH, the charging current is 700mA.
**For 4 pcs AA Ni-MH (using supplied adaptor), the charging current is 600mAh. For 2 pcs AA Ni-MH, the charging current is 1000mA.

*Charge time will vary depending upon the brand, capacity and condition of batteries being charged.

Important Safety Instructions

1. Before charging, read instruction.
2. This charger is intended for use with Nickel-metal-hydride rechargeable batteries only. Attempting to charge other types of batteries may cause personal injury and damage to the charger.
3. Do not expose charger to rain or moisture. For indoor use only.
4. Remove from mains when not in use.
5. Never use an extension cord or any attachment not recommended by manufacturer, otherwise this may result in a risk of fire, electric shock or injury to persons.
6. Do not operate the charger if it has been subjected to shock or damage. Take it to a qualified serviceman for repair.
7. Do not disassemble the charger. Incorrect reassemble may result in a risk of electric shock or fire.
8. Unplug the charger from outlet before attempting any maintenance of cleaning.
9. This power unit is intended to be correctly orientated in a vertical or floor mount position.

10. The appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.
11. Before scrapping your charger, remove the batteries from the unit and they are disposed of safety